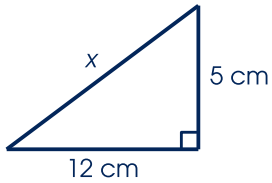
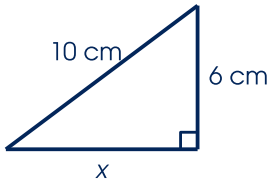
GCSE HIGHER · REVISION MAT 2

Pythagoras and trigonometry

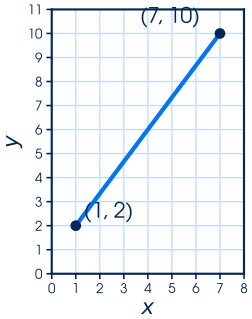
1 Find the length of the hypotenuse.



2 Find the length x.



3 Show that the points (1, 2) and (7, 10) are 10 units apart.



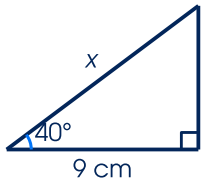
4 A rectangle has a diagonal of 17 cm.

Its width is 8 cm.

Find its perimeter.

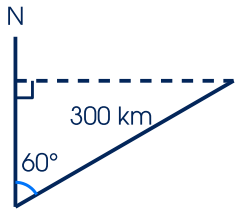


5 Show that $x = 11.7$ cm, to 1 d.p.

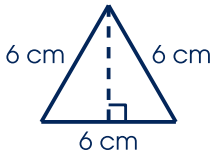


6 A plane flies 300 km on a bearing of 060°.

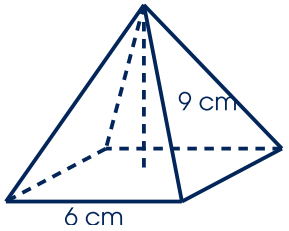
How far north and how far east of its start is it?



7 Show that the height of an equilateral triangle of side 6 cm is $3\sqrt{3}$ cm.



8 A square-based pyramid has base edges of 6 cm and slant edges of 9 cm.



Find its vertical height.

ANSWERS · REVISION MAT 2

Pythagoras and trigonometry

1 $\sqrt{144 + 25}$

13 cm

2 $\sqrt{100 - 36}$

8 cm

3 $\sqrt{6^2 + 8^2} = \sqrt{100}$

= 10

4 Length $\sqrt{289 - 64} = 15$ cm

46 cm

5 $\cos 40° = \frac{9}{x}$

$x = \frac{9}{\cos 40°}$

= 11.7 cm

6 North: $300 \cos 60° = 150$ km

East: $300 \sin 60° = 259.8$ km

7 $h^2 = 6^2 - 3^2 = 27$

$h = \sqrt{27} = 3\sqrt{3}$

8 Half-diagonal $= 3\sqrt{2} = 4.24$

$h = \sqrt{81 - 18} = \sqrt{63}$

7.94 cm